Tyler McCarthy

Mccartty@mail.gvsu.edu
616-264-0770

Github.com/point01
Linkedin.com/in/point01

Objectives

Seeking full time positions in security engineering, general software engineering, or mobile development in San Francisco or the San Francisco Valley, picking up and sharpening as many new skills as I can in the process.

Employment

Edmodo - Security Engineering Intern   San Mateo, CA   May - Aug 2015

- Designed, built, tested and deployed to AWS - service that detects malware and analyzes text in hundreds of user–generated content submissions per minute in arbitrary file format
  using Python, Flask, Apache Tika, Docker
- Designed, built, tested and maintained a moving-window rate limiting service covering entire platform, improving considerably over previous PHP implementation
  using Python, Apache Thrift, Docker, Redis
- Tested, confirmed, corrected, and documented security holes in PHP backend code
- Built a tool to automatically detect & fix mixed content on Wordpress blog pages
- Light DevOps work in Amazon Web Services

Grand Valley Surplus Store - Student IT Technician   Grand Rapids, MI   Jun - Sep 2014

- Managed FOG disk imaging server, ensured data destruction and reimaging of hundreds of computers with Linux; directly aided customers at checkout and during sales

Skills & Experience

Programming Languages

Strong: Python, Java, JavaScript, C, C#, C++, BASH
Some exposure: PHP, Ruby, Haskell, Lisp, Mathematica
Learning: OpenGL & GLSL, Swift, HTML

Operating systems

- Extensive Linux (Arch Linux, CentOS, Ubuntu, others)
- Windows 7, 8.1 & 10; Windows Server 2008 & 2012

Computer / System Security

- Functional familiarity with OWASP Top Ten
- Secure network architecture, firewall
- Practical crypto, IDS, honeypots
- Pentesting in Nmap, Zenmap, Metasploit & Armitage
- Linux server hardening experience

B.S., Computer Science

Grand Valley State University Dec. 2015

Technologies

- Apache Thrift, Apache Tika
- Docker, Amazon Web Services mgmt.
- Mysql, Postgresql, Sqlite, Redis

Programs & Environments

- Android Studio, Eclipse, Visual Studio
- Unity 5, Unreal Engine 4.5

Security Related (extracurricular)

Computer Security Team - Grand Valley - Team Coordinator

- Organized meetings & team practice, researched and taught skills to 12 member students
- Coordinated with GVSU faculty to set up training network & organized training sessions
- Team competed in 2014 Michigan Collegiate Cyber Defense Competition
- Analysis and practice of incident reporting

Served as team leader for the 2013 - 2014 school year Computer Security Team at GVSU. Team objectives were to study and practice a variety of cyber defense concepts and techniques, including secure server configuration, secure network infrastructure, defense against common exploits, and attacking other teams in a CTF simulation.

Security related (curriculum)

CIS 458 - System Security
Practical use of high and low level security concepts, including:
- Cryptography (symmetric/asymmetric, PGP, RSA, SSL/TLS, Digital Signatures, CA's)
- Intrusion Detection (Tripwire in dpeth, Snort, Bro) Honeypots (Honeyd)
- Malware (Exploits, including. Virus polymorphism, Metamorphism, detection techniques)
- Network Security (Monitoring Incl. machine learning detection, Firewalls, Network Structuring, DMZs)
- Operating system security, access control, trusted systems

CIS 375 - Wireless Networking Systems
Survey of networking concepts, emphasizing security, of wireless systems
- Wireless attacks (MDK3, Reaver, ARP poisoning) & defense against those attacks
- WEP & WPA cracking
- Bluetooth 4.0 security

MTH 312 - Cryptography
Overview and dissection of encryption schemes and techniques in Mathematica
- Conceptual overview of functional cryptosystems & historic cryptosystems
- Symmetric & Asymmetric cryptosystems incl. RSA, ElGamal, DES, AES
- Cryptographic hashes, & password verification. SHA, MD5, Salting
- Secure key exchange

CIS CIS 358 - Information Assurance
Survey of security and infosec concepts
- Fundamentals of information security & assurance
- Types of threats, attacks, risks & methods of mitigation
- Access control models, network monitoring

Voluntarism & Student Organizations

Student Environmental Coalition - Grand Valley - Treasurer   Sep - Dec 2013
- Balanced budget; wrote and presented funding requests, helped organize service events
- Secured 100% funding for 20 student attendees to Powershift environmental conference

Center For Inquiry – Grand Valley - Vice President, Treasurer, Service Coordinator   2011 - 2013
- Helped coordinate and execute speech by Neil deGrasse Tyson at GVSU (4,000 attendees)